UNIT: Life Science

2nd Grade

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**Unit Objective**:

Students will be able to interact with others in dramatic play and identify the way that organisms change and meet their needs to survive in their environment by embodying characteristics of various animals and recording how they would react in different environments.

**Standards**:

SCIENCE--

Standard 4, Objective 1, Indicator 1

*Compare and contrast the characteristics of living things in different habitats.*

Standard 4, Objective 1, Indicator 2

*Develop, communicate, and justify an explanation as to why a habitat is or is not suitable for a specific organism.*

Standard 4, Objective  1, Indicator 3

*Create possible explanations as to why some organisms no longer exist, but similar organisms are still alive today.*

Standard 4, Objective 2, Indicator 1

*Communicate and justify how the physical characteristics of living things help them meet their basic needs.*

Standard 4, Objective 2, Indicator 2

*Observe, record, and compare how the behaviors and reactions of living things help them meet their basic needs.*

Standard 4, Objective 2, Indicator 3

*Identify behaviors and reactions of living things in response to changes in the environment, including seasonal changes in temperature and precipitation.*

THEATRE--

TH:Cr1.1.2.b

*Collaborate with peers to conceptualize scenery in a guided drama experience*

TH:Cn11.2.2.b

*Collaborate on creation of a short scene based on a non-fiction literary source in a guided drama experience.*

TH:Re8.1.2.b

*Identify causes and consequences of character actions in a guided drama experience*

TH:Pr4.1.2.b

*Alter voice and body to expand and articulate nuances of a character in a guided drama experience (e.g., process drama, story drama, creative drama).*

**Big Ideas**:

Understanding the world that we live in. Observing changes in organisms. Identifying the nature of organisms. Character development of living organisms.

**Essential Questions**:

How should we interact with the world around us? How does understanding a living organism’s needs help us better understand the environment around us? How can we use the knowledge we gain from studying living organisms to enrich our interactions with others and our environment?

How does developing a character help us understand the organism? How do our interactions with others enhance our character? What is the role of movement and voice in character?

**Enduring Understanding**:

Students will learn to appreciate, respect, and care for the animals in our world.

**Key Knowledge & Skills**:

Describe ecosystems and why animals are suited to their environment. Understand Life Cycles and Predator/Prey relationships. Describe physical characteristics of organisms and how those help them survive. Understand behaviors of organisms in response to their environment.

**Authentic Performance Tasks**:

Recognize appropriate environments for specific organisms. Identify predator and prey in a food chain. Recognize differences in animal needs & their environments. Understand how an environment and its changes affect the organisms within.

**Lessons:**

**LESSON ONE** What is an ecosystem and what animals live there?

**Objective**: Students will demonstrate their understanding of how animals interact with their habitats & why they are suited for them by exploring different animals in different habitats.

**LESSON TWO** Fitting In in Your Environment

**Objective**: Students will demonstrate their understanding of organisms and their habitats by explaining why certain animals are better suited for certain environments than others through a game of “A World Divided”.

**LESSON THREE** Predator vs. Prey

**Objective**: Students will be able to identify predators and prey by creating food chains through their animal characters.

**LESSON FOUR** What do animals eat?

**Objective**: Students will be able to identify types of organisms and what they eat by creating a map for a zoo and listing the animals and their appropriate food.

**LESSON FIVE** Live Zoo Advertisements

**Objective**: Students will be able to identify types of organisms and what they eat by creating a map for a zoo and listing the animals and their appropriate food.

**LESSON SIX** How do animals Move?

**Objective**: Students will understand how various animals react to seasonal changes as they practice being different animals preparing for winter.

**LESSON SEVEN** Wrap up (Animal Charades)

**Objective**: Students will demonstrate their understanding of animal characteristics learned throughout this unit by participating in a game of animal charades.

**LESSON ONE**

What is an ecosystem and what animals live there?

**Objective**: Students will demonstrate their understanding of how animals interact with their habitats & why they are suited for them by exploring different animals in different habitats.

**Vocab**: ecosystem.

* Hook: Home
  + Students will describe their home and show some of their favorite activities to do there. Have students raise their hands and tell what their favorite room in their house is.
    - Be sure to preface that this should be school appropriate (no toilet humor)
    - Students will stand up and act out what activity they might do in that room
  + Turn to a partner and pantomime a quick example of an activity that you do in your house. Your partner will guess what the activity is. Switch.
* Discussion:
  + What kinds of things make our houses feel like homes?
    - Games, family, pets, etc.
  + What do we need in a house in order to survive?
    - Food, shelter, bed, etc.
  + If you were an animal what would you need to survive in a home?
    - Similar responses to previous question
  + Explain that animals in the wild have homes as well, but theirs are just outside. We call their homes their ecosystem
* Activity: Ecosystem Tour
  + We are going on an Amazon Safari! Let’s all climb into our safari jeep (assigned seats on the rug). Take a look around. What do our surroundings look like? What animals do we see? How do the animals interact with their environment? With the plants as well as other animals?
    - Ex: Gazelles eat the grass, Giraffes’ long necks allow them to reach the tree leaves
  + Awesome! Let’s teleport over to the tropical rainforest! What animals do we see here? How is the environment different? How do the animals in this ecosystem utilize their environment?
    - Monkeys’ tails allow them to swing & hang on branches, lizards blend in with the leaves and trees.
  + Okay, time to go back home…
* How are animals different in different ecosystems? How are animals better suited for their specific environments than other animals?

**LESSON TWO**

Fitting In in Your Environment

**Objective**: Students will demonstrate their understanding of organisms and their habitats by explaining why certain animals are better suited for certain environments than others through a game of “A World Divided”.

**Vocab**: Habitat. Ecosystem. Physical Characteristic. Tundra.

* Hook: Land vs Water
  + Why do fish live in the water? Why do dogs live on land? Why do birds like the sky?
  + If you were a fish, would you like the land? If you were somehow transported onto land, what would you do? Everybody stand up and show me how “Fish You” would behave on land.
  + If you were a bird in the water, what would you do? Would you be able to survive? Can you guys show me how “Bird You” would act if you were stuck in a body of water?
  + Ask students to raise their hands and say what their favorite animal is. Where does this animal live? What would happen if it was placed in a different environment, one it is not suited for? Take 3 favorite animal suggestions.
* Discussion: Why do animals live where they live? What is it about their bodies that allows them to live there successfully? How come some animals cannot live in a different habitat from their own?
* Activity: A World Divided
  + Separate the classroom in half. One side is the Water side and the other Land. Students will start in the middle. The teacher will say the name of an animal and kids must move to the side of the room that tells where the animal lives. Ask one student to give an example of a physical characteristic that suits that animal for that habitat. After a couple rounds of Land vs. Water, you can get more specific. Examples: Desert vs. Forest, Tundra vs. Swampland.
  + Animal Suggestions:
    - Ocean: Shark, jellyfish, lobster
    - Land: Dinosaur, falcon, raccoon
    - Desert: Coyote, rattlesnake, iguana
    - Forest: Tree Frog, owl, opossum
    - Tundra: Polar bears, white wolves, caribou
    - Swamps: Alligator, frogs, turtles
  + For each animal, ask students for one body feature (one physical characteristic) of the animal that suits it for life in that habitat.
* Wrap Up
  + What did we learn today? Can someone share something new they learned, something they found interesting, or something they remembered?

**LESSON THREE**

Predator vs. Prey

**Objective**: Students will be able to identify predators and prey by creating food chains through their animal characters.

**Materials**: slips of papers with animals on them. Hat/bucket.

**Vocab**: Producer, Consumer. Primary, secondary, tertiary. Predator, prey. Food chain.

* Who knows what a food chain is? What are the animals called that eat other animals? What about the animals that get eaten, what are they called?
  + Lots of animals eat other animals. Lions eat deer and rabbits. Sharks eat seals, seals eat dolphins, dolphins eat fish, fish eat algae. Animals create a whole chain of who eats whom.
* Food Chain Game
  + Choose an animal from a slip of paper out of a hat. You are now that animal. You will walk around the room, acting like that animal. You must try to find an animal that you would eat for prey. RULE NUMBER ONE: you will NOT hurt any other student! Do not bite, do not hit, do not pinch, do not tackle. To show that you have “eaten” them, simply lay your hand on their shoulder. This does not mean grab and push and pull. Just set it nicely on their shoulder and create a chain.
    - For example, If Abe is a Hawk, he will look for a snake, Robin. Robin the snake will look for a mouse, Lily. Lily the mouse will look for cricket, Peter. Once all the predators have found their prey, they will have created a chain-- Abe, Robin, Lily, Peter.
    - Mrs. Stroupe & I will be the Plants. The animal at the end of the food chain is the one that eats the grass, flowers, algae, etc. So Peter will come and latch on to me or Mrs. Stroupe.
    - Example Food Chains: ( print out enough for each student. There can be multiples of some chains)
      * Hawk > Snake > Mouse > Cricket > Grass
      * Shark > Seal > Fish > Algae
      * Fox > Bird > Caterpillar > Plant
      * Lion > Wolf > Rabbit > Carrot
      * Tiger > Deer > Flower
* So let’s recap! We have a lion, rabbit, and grass. Who is the producer? Who is the primary consumer? Who is the secondary consumer?

**LESSON FOUR**

What do animals eat?

**Objective**: Students will be able to identify types of organisms and what they eat by creating a map for a zoo and listing the animals and their appropriate food.

**Materials**: blank papers, colored pencils, animal groups

**Vocab**: Carnivore, Omnivore, Herbivore

* Intro
  + Who can remind me what we talked about last time? (Food Chains, Predator, Prey)
  + Ask class for help in defining Carnivore, Omnivore, Herbivore.
* Activity: Zoo Maps
  + Students will take on the role of Zoo Park Managers and create a map for their zoo. Split the class into partnerships. Each partnership will get a blank piece of paper for their map and a list of 6 animals (2 of each eater). Students will organize the Animals in their zoo by what type of eater the animals are (ex: Bears & Gorillas will be in the Omnivore corner of the Zoo). Under each category corner, the students will write the name of the animal (ex: Lion) and one example of what food it eats (ex: deer). Students are free to add in additional park features and designs after completing their animal requirements.
* Wrap Up
  + Students are likely to need more time. Allow 5 minutes in the next lesson for them to finish creating their zoos. Drama work will be built off this lesson.

**LESSON FIVE**

Live Zoo Advertisements

**Objective**: Students will be able to identify types of organisms and what they eat by creating a map for a zoo and listing the animals and their appropriate food.

**Vocab**: Carnivore, Omnivore, Herbivore

* Warm Up
  + Allow students a few minutes to finish their zoo maps from the previous lesson.
* Transition
  + Great work! So now we all have these amazing zoos! But who’s going to come visit them?
  + Let’s create an advertisement for our zoos that people can see so they will come see our animals.
* Activity: Live Advertisements
  + In their partnerships, students will create a 30-second TV commercial advertising their zoos and the animals they have.
  + They should mention:
    - 1 feature animal they have, what type of eater this animal is (omn., carn., herb.), and an example of 1 type of food they eat.
    - A fun fact they have learned about the animal through the unit work
    - 1 fun feature their zoo has
  + Allow about 5-10 minutes for creating their ads. Remainder of the time can be spent sharing.
  + Students will come before the class, one partnership at a time, and share their advertisements.
    - Remind class to be showing their best audience behavior. Everyone deserves respect while they perform.
* Wrap up
  + What did we learn this week about animals? (Something new, something remembered, something interesting)

**LESSON SIX**

How do animals Move?

**Objective**: Students will understand how various animals react to seasonal changes as they practice being different animals preparing for winter.

**Vocab**: hibernation, migration, adaptation

* Warm up: What’s in your cave?
  + “Who knows what bears do in the winter time?” -- That’s right! They hibernate!
  + Who can help me out in defining the term hibernation? That’s right, hibernation means a time when an animal stays inside and sleeps for a long period of time. Typically this happens in the winter and the animal is asleep.
  + Just like how you get ready for bed, bears have to get ready for hibernation. What are things that bears need to get ready for hibernation?
    - Find a cave, eat lots of food, make a bed, etc.
  + Quietly, let’s all move around the room as bears getting ready for our hibernation.
    - We are all going to have our own caves, one bear per cave. You can be neighbors, but no sharing caves. Okay, let’s go!
  + Side coaching:
    - What things might you need inside your cave? How will you go about getting those items? What food are you going to eat before you fall asleep?
    - Okay, winter is coming, lets all find our caves. Snuggle in for the winter.
    - Good job sleeping, little bears. Okay, spring is coming. We all get to wake up now! Stretch it out. Stumble out of your caves. And lets all find our spots back on the rugs.
  + What were some of the things that each of you did to prepare for the winter hibernation? (Get 4 or 5 responses, then clarify what bears typically do to get ready.) “Yeah, bears will eat a lot before hibernating. They will also find a cave or dig a den that they can sleep in.”
* Other animals
  + Well, now we know that bears hibernate, but what about other animals? Do they still have to react to winter?
  + Some animals migrate. Who can define the word migrate for me? What is an example of an animal that migrates to somewhere warmer when it gets to cold?
  + How do you react to winter? Everyone turn to your partner and tell them what you do.
    - Some student will likely say that they turn up the heat or wear a jacket. This is a perfect segue to how some animals such as dogs grow a thicker coat of fur. Other animals move to a new place, or migrate, during cold months and then come back for the warmer months. :
* Wrap-up
  + Each animal reacts to changes in their environment differently. Some hibernate and some migrate. Thanks for being great animals and exploring with us!

**LESSON SEVEN**

Wrap up (Animal Charades)

**Objective**: Students will demonstrate their understanding of animal characteristics learned throughout this unit by participating in a game of animal charades.

**Materials**: Charades papers

**Vocab**: Habitat, omnivore, carnivore, herbivore, hibernate, migrate

* Animal Charades
  + Ok, friends, remember the activity that we did where we practiced being different animals? -- Awesome! Try and remember some of the things you learned because we are going to use that along with the other things we learned over the last few weeks to play a game of “Animal charades.” Since this is a game of charades, you can’t speak or make the animal noises. You must use your body and your knowledge of the animal to help your classmates guess what animal you are.
  + You will work in groups that we will assign. Once you are in your group, you will pick a slip of paper. Each slip of paper will have an animal along with a few details of that animal.
    - Those details are: habitat, place on the food chain, reaction to winter. You will find a way to show these details through your bodies.
  + If you want to show the animal’s place in the food chain, instead of having everyone being the same animal, one or two of your partners can choose to play the prey or the predator that matches your animal.
  + For example, if we got the slip of paper that says “Shark”, one person could pretend to be the shark while the other pretends to be a seal that she will eat.
    - \*demonstrate\*
  + Divide the students into groups of 3. Have each group select a slip of paper. The slips will be filled out as follows:
    - Shark
      * Habitat: ocean
      * Predator or Prey: Carnivore. Predator of Seals
      * Reaction to winter: They will often migrate to warmer waters.
    - Grizzly Bear
      * Habitat: Forest
      * Food chain: Omnivore. They eat both berries and other animals such as elk and fish.
      * Reaction to winter: hibernation
    - Hawk
      * Habitat: deserts and fields
      * Food chain: Carnivore that eats the snake.
      * Reaction to winter: Migrates
    - Snake
      * Habitat: desert, swamp, rainforest, forest
      * Food Chain: Carnivore that eats mice and lizards.
      * Reaction to winter: Hibernate in their den, usually underground.
    - Monarch Caterpillar/Butterfly
      * Habitat: Open fields and meadows
      * Food Chain: Herbivore. Eats plants and is eaten by the bird.
      * Reaction to winter: The monarch butterfly migrates south to warmer climates until the end of winter when it returns.
    - White Wolves
      * Habitat: Tundra
      * Food Chain: Carnivore. Eats elk and coyote.
      * Reaction to winter: Grows a long, thick coat of fur to keep them warm.
  + Give students about 5 minutes to work on their 30 second skit for the game of charades. As they work, roam to provide coaching and answer questions.
* Presentations
  + Gather the students back to the front of the classroom. Instruct the students that we will watch the whole 30 second skit before guessing what animal the group is playing. When the 30 seconds are up, I will say, “And cut!” The group will stop and stay at the front while we take guesses. After the correct guess is said, the group that is sharing will tell us the habitat and role in the food chain that their animal played.
  + Get a volunteer group to go first. “Let’s give them a 1, 2, 3, Action!”
  + Allow each group to share. If you are running out of time, instead of asking the groups to tell the class about their animal, you can have the students turn to each other and quickly whisper what the animal’s habitat and role in the food chain is.
  + This can act as the final assessment. Did the students demonstrate an understanding of habitats, reactions to temperature changes, and food chains? Did they use their bodies and faces to express how animals move and interact?

UNIT ASSESSMENT -- Check Term and Principles that each student showed an understanding

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| **STUDENT** |  |  |  |  |  |  |  |  |  |
| **VOCAB** |  |  |  |  |  |  |  |  |  |
| Ecosystem |  |  |  |  |  |  |  |  |  |
| Habitat |  |  |  |  |  |  |  |  |  |
| Physical characteristics |  |  |  |  |  |  |  |  |  |
| Tundra |  |  |  |  |  |  |  |  |  |
| Producer |  |  |  |  |  |  |  |  |  |
| Consumer |  |  |  |  |  |  |  |  |  |
| Primary |  |  |  |  |  |  |  |  |  |
| Secondary |  |  |  |  |  |  |  |  |  |
| Tertiary |  |  |  |  |  |  |  |  |  |
| Predator |  |  |  |  |  |  |  |  |  |
| Prey |  |  |  |  |  |  |  |  |  |
| Food chain |  |  |  |  |  |  |  |  |  |
| Carnivore |  |  |  |  |  |  |  |  |  |
| Omnivore |  |  |  |  |  |  |  |  |  |
| Herbivore |  |  |  |  |  |  |  |  |  |
| Hibernation |  |  |  |  |  |  |  |  |  |
| Migration |  |  |  |  |  |  |  |  |  |
| Adaptation |  |  |  |  |  |  |  |  |  |
| **SCIENCE**  **PRINCIPLES** |  |  |  |  |  |  |  |  |  |
| Compare and contrast the characteristics of living things in different habitats. |  |  |  |  |  |  |  |  |  |
| Develop, communicate, and justify an explanation as to why a habitat is or is not suitable for a specific organism. |  |  |  |  |  |  |  |  |  |
| Create possible explanations as to why some organisms no longer exist, but similar organisms are still alive today. |  |  |  |  |  |  |  |  |  |
| Communicate and justify how the physical characteristics of living things help them meet their basic needs. |  |  |  |  |  |  |  |  |  |
| Observe, record, and compare how the behaviors and reactions of living things help them meet their basic needs. |  |  |  |  |  |  |  |  |  |
| Identify behaviors and reactions of living things in response to changes in the environment, including seasonal changes in temperature and precipitation. |  |  |  |  |  |  |  |  |  |
| **DRAMA PRINCIPLES** |  |  |  |  |  |  |  |  |  |
| Collaborate with peers to conceptualize scenery in a guided drama experience |  |  |  |  |  |  |  |  |  |
| Collaborate on creation of a short scene based on a non-fiction literary source in a guided drama experience. |  |  |  |  |  |  |  |  |  |
| Identify causes and consequences of character actions in a guided drama experience |  |  |  |  |  |  |  |  |  |
| Alter voice and body to expand and articulate nuances of a character in a guided drama experience (e.g., process drama, story drama, creative drama). |  |  |  |  |  |  |  |  |  |